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PATENT
514485-3729
09/319,678
H26304PCUS

JP 1627

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Eschenmoser et al.
Ser. No. : 09/319,678
Filing Date : August 16, 1999
For : NONHELICAL SUPRAMOLECULAR NANOSYSTEMS
Examiner : J. Ricigliano
Group Art Unit : 1627

16/C * Election
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TRANSMITTAL

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Enclosed for are: Response to Restriction Requirement; and return-receipt postcard.

The Assistant Commissioner is authorized to charge any fees under 37 C.F.R. §§1.16,
1.17, or 1.21 required, or to credit any overpayment, to Deposit Account No.:50-0320.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP
Attorneys for Applicants

By Susan Lehnhardt
Susan K. Lehnhardt
Registration No. 33,943
(212) 588-0800



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AMENDMENT AND RESPONSE TO RESTRICTION REQUIREMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is in response to the Official Action dated March 28, 2001 for which a response is due by April 28, 2001. Group I (Claims 1-21) is elected, with traverse.

Please amend the specification of the above-identified application as follows:

Page 10 line 34, delete "4' and 5'" and substitute therefor --2' and 4'--.

REMARKS

Attached hereto is a marked up version of the changes made to the specification by this amendment. The attachment is captioned "Paragraph as Amended." The amendment is purely editorial; no new matter is added.

Election/Restriction

The Official Action required restriction to one of the following Groups:

- I. Claims 1-21, a compound which is a supramolecular nanosystem.

- II. Claim 22, a composition comprising a library of different supramolecular nanosystems.
- III. Claims 23, 24, a process of making a nanostructure as set forth in Group I.
- IV. Claims 23, 24, a method of making a library of nanostructures as in Group II.
- V. Claims 25, 26 the method of using nanosystems.
- VI. Claim 27, the method of using nanosystems.
- VII. Claim 28, a method of using libraries of nanosystems to identify catalysts.

The Office Action states that the groups of inventions are not so linked as to form a single inventive concept under PCT Rule 13.1 because under PCT Rule 13.2, they lack the same or corresponding technical features for the reason that supramolecular nanosystems meeting the limitations of the claims are known in the art. For the sake of argument and not by way of admission, if supramolecular nanosystems are known in the art, this would not prevent them from being a unifying concept.

Under 35 U.S.C. §121, “two or more independent and distinct inventions ... in one application may ... be restricted to one of the inventions.” Inventions are “independent” if there is no distinct relationship between two or more subjects disclosed.” MPEP 802.01. The term “distinct” means that “two or more subjects as disclosed are related ... but are capable of separate manufacture, use or sale as claimed.” MPEP 802.01. Nonetheless, even with patentably distinct inventions, restriction is not required unless one of the following reasons appear (MPEP 808.02):

- 1. Separate classification;
- 2. Separate status in the art; or
- 3. Different field of search.

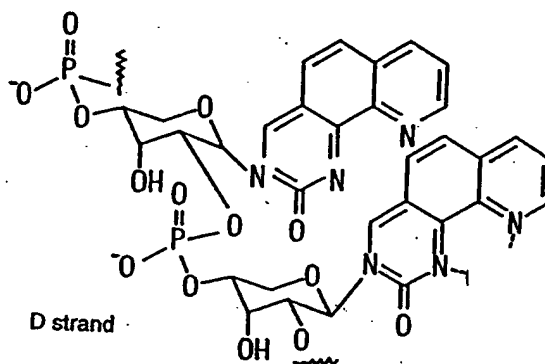
Under Patent Office procedures, “[i]f the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to distinct or independent inventions.” MPEP 803 (emphasis added).

Further, pursuant to 37 C.F.R. §1.141(b), “the process of using [a claimed product] may be joined with the claims directed to the product and the process of making the product even though a showing of distinctiveness between the product and the process of using the product can be made.”

All the claims in the seven groups are related to non-helical supramolecular nanosystems, and examination of one of these groups mandates consideration of the patentable elements in the others. The search would involve such interrelated art that an examination of the entire application can be made without undue burden on the Examiner. Therefore, reconsideration and withdrawal of the Requirement for Restriction is requested.

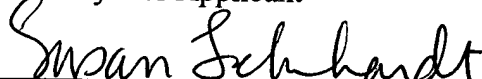
Species Election

In addition, the Office Action alleges that the application contains claims directed to more than one species of the generic invention and that these species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1. The Office Action set forth an election of species requirement, based on structure, for specific oligomers and functional units forming a specific nanosystem. The following species, which is the left (D) strand of Figure 3, is elected:



If any additional fee is determined to be due for entry and consideration of this Amendment, the Assistant Commissioner is hereby authorized to charge any fee or credit any overpayment to Deposit Account No. 50-0320.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP
Attorneys for Applicant


Susan K. Lehnhardt
Reg. No. 33,943
Tel: (212) 588-0800

Paragraph as Amended

In the specification:

Paragraph beginning at line 33 of page 10 has been amended as follows:

The phosphoramidite method was used to synthesize a pyranosyl-RNA strand which was partly self-complementary as hairpin and had 2' and 4' linker ends with the sequence linker-pr-GCGA₅CGC-linker, and the linker ends were linked to maleimido-gold clusters as described by Alivisatos, A.P. et al. (1996), supra. Then the pairing of 10 mM product to the hairpin was detected by spectroscopy in the standard buffer (0.15 M NaCl or 1 M NaCl, 10 mM Tris HCl, pH 7). Addition of one equivalent of the complementary strand pr-G(T₅)C proved by spectroscopy the opening of the hairpin and the separating of the gold clusters. The hairpin structure was restored simply by diluting the solution. It is possible in this way to expose a substrate to different reaction centers macroscopically in a controlled manner via the dilution (see Fig. 4).